



Herpetological Review

Volume 38, Number 3 — September 2007

SSAR 50th Anniversary Year

land from drying billabongs to permanent pools. Further observations will be necessary to determine whether turtle predation by eagles is a localized phenomenon due to unique site characteristics at the pool, or possibly represents opportunistic scavenging.

We thank Earthwatch Institute, Australia for funding and field volunteers. Specimens were collected with permission of the Australian Wildlife Conservancy (property owners and managers) and also the Tirralintji community (traditional owners). Fieldwork was facilitated by T. Vigilante of Kimberley Land Council and S. Legge of Australian Wildlife Conservancy. J. Mitchell and R. Welsh gave helpful critique on an early draft. Surveys were covered by animal ethics board approval of the University of Canberra and collecting permit SF5344 from the Department of Conservation and Land Management, Western Australia.

Submitted by **ANTON D. TUCKER**, Mote Marine Laboratory, Sarasota, Florida 34236, USA (e-mail: tucker@mote.org); **NANCY N. FITZSIMMONS**, Institute of Applied Ecology, University of Canberra, Canberra, ACT 2601 Australia; **SAMMY WALKER** and **BETTY WALKER**, Tirralintji Homestead, Gibb River Road, Imintji, Western Australia.

CHELUS FIMBRIATUS (Matamata). **REPRODUCTION.** On 21 September 2006 we found a clutch of *Chelus fimbriatus* eggs in the Caño Guaritico, at the Estación Biológica El Frío (Apure, Venezuela; UTM: 0508375 N; 0872150 W). The ten egg clutch was found at the edge of the stream (7 cm above the water level), inside a hole excavated by fishes locally called “bagres” (Loricariidae: *Hypostomus plecostomus*, *Liposarcus multiradiatus*, and *Glyptoperichthys gibbiceps*). The hole was partially collapsed by stream flow, which allowed us to find the clutch. There were no signs of depredation. The eggs were transferred to a polyurethane box filled with sand and taken to the biological station. The eggs were spherical, with a smooth, white shell. Egg diameter in this clutch ranged from 37.8 to 39.4 mm (mean 38.4 mm); egg mass ranged from 33.5 to 36.5 g (mean 34.9 g). Although the deposition date of this clutch is unknown, it is earlier than most previous reports, such as October in Colombia (Medem 1969. *Caldasia* 8:341–351) and October–November in Venezuela (González Ortiz, in Mondolfi 1955. *Memorias Sociedad Ciencias Naturales La Salle* 15:177–183; Lasso, pers. obs.). This report is apparently the earliest date for a clutch of *Chelus fimbriatus* in the wild, although in all cases the reported dates for egg laying coincide with decreasing water levels at the start of the dry season.

Clutch size reported here is smaller than clutches reported by Medem (*op. cit.*), Mondolfi (*op. cit.*) and Hausmann (1968. *Int. Turt. Tort. Soc. J.* 2[4]:18–19, 36), who note a range of 12–28 eggs. Our egg size data agree with those compiled by Pritchard and Trebbau (1984. *Turtles of Venezuela*, SSAR, Ohio), who reported that egg diameter ranged from 3.4 to 4.0 cm.

We thank Javier Castroviejo, Ramón Nieves, and Franklyn Silva for field assistance, and Julio García for helping with translation.

Submitted by **RAFAEL ANTELO**, Estación Biológica El Frío, Estado Apure, Venezuela (e-mail: megapicu@hotmail.com); **MANUEL MERCHAN**, Asociación Chelonia, c/ Aristóteles, 3-2ºB, 28027 Madrid, Spain (e-mail: manuelmerchan@yahoo.com);

and **CARLOS LASSO**, Fundación La Salle, Av. Boyacá and Maripérez, Edif. Fundación La Salle, PH, Caracas, Venezuela.

CHRYSEMYS PICTA BELLII (Western Painted Turtle). **COLORATION.** Variations in pigmentation, independent of subspecies characteristics, have been observed in many indigenous populations of *Chrysemys picta* throughout North America. These variations have been attributed to a number of biotic and abiotic factors such as sexual cycles, age, differences in habitat quality such as minerals or tannins in the water, or variable substrate colors (Rowe et al. 2006. *Herpetol. Rev.* 37:293–298). Here we report the first published account of reticulate blue coloration in *C. picta*. On 9 September 2005, we captured a large male *C. picta bellii* (171 mm PL) in an irrigation ditch adjacent to the South Platte River in Brush, Colorado (Morgan County). In addition to the usual red and black markings, this individual displayed distinct blue reticulate coloration along the marginal scutes. This coloration was especially striking on the inframarginal scutes and bridge. These reticulate blue marking appeared to have completely replaced the yellow markings typically found on these scutes. On 28 May 2006, two other *C. picta* males (141 mm and 142 mm PL) displaying similar blue coloration, were captured in a small pond near Limon, Colorado (Elbert County) ca. 160 km S of the Morgan County location. Although reticulate melanism is well documented for older males of this subspecies (Ernst et al. 1994. *Turtles of the United States and Canada*. Smithsonian Inst. Press, Washington DC. 578 pp.), it is not known if the blue reticulation pattern follows a similar pattern of expression. To date, no females have been discovered with similar coloration. Differences in habitat quality and distance between these two locations make it unlikely that environmental conditions alone would account for this unusual color pattern.

Submitted by **CHRISTOPHER R. COOLEY**, Department of Biology, 3333 Regis Boulevard, D-8, Regis University, Denver, Colorado 80221, USA; e-mail:ccooley@regis.edu.

CYCLEMYS DENTATA (Asian Leaf Turtle). **FIRE SCARS.** On 25 November 2004, during a larger study on freshwater turtles in Loagan Bunut National Park (LBNP) (03°44'–03°N, 114°09'–114°17'E), Sarawak, Malaysia, a small adult *Cyclemys dentata* (straight carapace length 130 mm) was collected, measured, and released. On the left side, marginals III–VII were damaged; scutes were partially missing, and portions of marginals V–VII missing (Fig. 1). All edges of the remaining portions of the marginals appeared to have undergone trauma presumably from exposure to fire. The injury was not new and had apparently healed.

Cyclemys dentata is known to occur in both highlands and, more commonly, in lowlands near small streams and ponds throughout Southeast Asia. Out of five individuals located at LBNP, all but one were found in secondary forest and the burnt individual was found on the eastern edge of the park, near an oil palm plantation. Fire is a common, yet controversial, tool used in the region to quickly clear brush and weeds for planting, particularly on oil palm and pulp wood plantations (Kinnaird and O'Brien 1998. *Conserv. Biol.* 12:954–956). Fires are routinely set at or near the end of the southwest monsoon, which corresponds to the dry season, and has



FIG. 1. View of the left aspect of an individual of *Cycllemys dentata* showing scarred and missing marginals.

been known to affect other turtle species in the region (Mitchell et al. 2005. *Herpetol. Rev.* 36:169).

Submitted by **KAREN A. JENSEN** (e-mail: kitti_jensen@yahoo.com) and **INDRANEIL DAS** (e-mail: idas@ibec.unimas.my), Institute of Biodiversity and Environmental Conservation, Universiti Malaysia Sarawak, 94300, Kota Samarahan, Sarawak, Malaysia.

DERMOCHELYS CORIACEA (Leatherback Seaturtle). **DIET.** Leatherback Seaturtles are dietary specialists, consuming planktonic gelatinous prey such as medusae (Scyphozoa, Siphonophora), salps and pelagic tunicates (Bjorndal 1997. *In* Lutz and Musick [eds.], *The Biology of Sea Turtles*, pp. 199–232. CRC Press, Boca Raton, Florida). Small quantities of other organisms are sometimes identified in gut contents, such as amphipods, other crustaceans, and fish, thought to have been consumed coincidentally together with commensal jellyfish (Frazier et al. 1985. *J. Herpetol.* 19:159–160). Here, we report the consumption of two new dietary items for this species

On 5 April 2005, an adult female Leatherback Seaturtle (CCL=143.0 cm), was found stranded and dead on San Luis Beach, Canelones, Uruguay (34°46'34"S, 55°35'18"W). The turtle was probably captured by a trawling vessel of the Uruguayan fleet, evidenced by a rope tied around its front flippers, used to discard the animal off the ship (Martin Laporta, pers. comm.). We examined the contents of the digestive tract and identified remains of the jellyfish *Lychnorhiza lucerna* (Scyphozoa, Rhizostomeae) and seven spider crabs *Libinia spinosa* (Decapoda, Majidae). The crabs were determined to be juveniles because of the relatively small size of their carapaces (10.8–18.2 mm. length, 8.7–14.5 mm. width, N = 7). Additionally, an adult Weakfish (*Cynoscion guatucupa*) (size = 250 mm) was also found in the esophagus of the turtle.

Lychnorhiza lucerna is a scyphozoan jellyfish that belongs to the Order Rhizostomeae, Superfamily Inescapulatae (Mianzan and Cornelius 1999. *In* D. Boltovskoy [ed.], *South Atlantic Zooplankton*, pp. 513–559. BACKHUYS Publishers, Leiden). It is common in the region, with a known geographic range that extends from San Clemente del Tuyú, Argentina, north to the Guyanas (Mianzan 1989. *Inv. Mar. CICIMAR Vol. 4* n° 1). However, to our knowledge this is the first report of *L. lucerna* consumption by *D. coriacea*. A mutualistic-commensalistic

relationship between the spider crab and *L. lucerna* has been documented in Uruguay by Vaz-Ferreira (1969. *Bol. Soc. Zool. Uruguay* 2:64–66), indicating that the crabs were ingested incidentally with the jellyfish. We believe that the presence of a Weakfish in the turtle's digestive tract is likely to be accidental, and suspect that was ingested while the turtle was captured within the trawl net.

We thank Antonia Bauzá and the local fishermen Cacho and Tincho for their help with the necropsy work. Jack Frazier, Fabrizio Scarabino, and Hermes Mianzan provided literature and comments on earlier drafts. Funding for Karumbé activities at San Luis Field Station came from the BP Conservation Programme. Karumbé field permit n° 200/04 is provided by MGAP-Division Fauna.

Submitted by **ANDRÉS ESTRADES, MILAGROS LÓPEZ-MENDILAHARSU**, and **ALEJANDRO FALLABRINO**, Karumbé, Av. Giannattasio km 30.500, El Pinar, C.P. 15008, Canelones, Uruguay (e-mail: tortuguayo@karumbe.org).

ERYMNOCHELYS MADAGASCARIENSIS (Madagascan Sidenecked Turtle). **DIET.** A number of authors (Siebenrock 1903. *Abhandlungen der Senckenberg Naturforschenden Gesellschaft* 27: 241–259; Vaillant and Grandidier 1910. *In* *Histoire Physique, Naturelle et Politique de Madagascar*, Paris, Librairie Hachette 17:1–86; Decary 1950. *Les reptiles Chapitre III. La faune malgache*. Paris: 77–89; Tronc and Vuillemin 1973. *Bulletin de l'Academie Malgache*, T. 51/1:190–224) described *Erymnochelys madagascariensis* as carnivorous, feeding primarily on molluscs, arthropods, fish, and amphibians. More recent studies (Kuchling and Mittermeier 1987. *IUCN SSC* 2:121–124; Jenkins et al. 1990. *Expedition Final Report*, Oxford Univ.: 13 pp.; Kuchling 1993. *Salamandra* 28:231–250) suggested the species was omnivorous because significant amounts of plant material were found in sampled guts. These authors identified three main components in the turtle's diet; animal matter (mostly made up of the small gastropod, *Melanoides tuberculata*), fish, and green shoots and root-tips of the reed *Phragmites mauritaunicus*. However, these data were collected over short time periods and are not representative of all ages, sizes, or habitats. In 1998–2000 the first author completed a study of the dietary preferences of the species by analyzing stomach contents (stomach flushing: Legler 1997. *Herpetologica* 33:281–284) and fecal samples of turtles trapped or accidentally collected at Ankarafantsika National Park, Madagascar, as part of his PhD thesis research (García 2005. *DICE Institute, University of Kent, Canterbury*. 299 pp.). A total of 298 stomach samples from 243 turtles and a total of 499 fecal samples from 72 turtles were collected from seven localities during the study period.

Juvenile and mature turtles differed in percentage animal and plant material identified in gut samples (juveniles: 59% animal and 41% plant; matures: 28% animal, 72% plant), but no significant differences were found between sexes. Aquatic arthropods and then seeds, fruits, and freshwater snails were the main items in the diet in juvenile turtles. In mature turtles, the most common items were fig fruits, seeds, nuts, and freshwater snails. This study suggests that *E. madagascariensis* at this site were more carnivorous in the smaller class sizes (<125 mm PL), shifted to opportunistic, omnivorous feeding habits as they got larger (125–200 mm